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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,827	09/29/2003	Kimihiko Nishioka	031216	3902
38834 7590 01/10/2008 WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP 1250 CONNECTICUT AVENUE, NW SUITE 700 WASHINGTON, DC 20036			EXAMINER JERABEK, KELLY L	
			ART UNIT 2622	PAPER NUMBER
			MAIL DATE 01/10/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/671,827	Applicant(s) NISHIOKA ET AL.	
	Examiner Kelly L. Jerabek	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-13, 15 and 18-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19 and 20 is/are allowed.
- 6) ☒ Claim(s) 10-13, 15 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 10-13, 15 and 18 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10-13, 15 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishioka et al. US 2002/0041445 in view of Sekiyama US 2003/0169516.

Re claims 10-13 and 18 Nishioka discloses an imaging apparatus (digital camera) comprising: an image taking section (8) for taking an image; a variable configuration mirror (94) to be used for the image taking section (8) having a reflecting

surface (9a) variable in configuration upon a conduction of electricity for performing an optical adjustment of said image taking section by change in the configuration of the reflecting surface (page 17, paragraph 413-page 18, paragraph 418; figure 26); an optical finder (Keplerian finder) for visually confirming an image to be taken (page 13, paragraphs 352-354); a variable configuration mirror (93) having a reflecting surface (9a) variable in configuration upon a conduction of electricity for performing an optical adjustment of said optical finder (Keplerian finder) based on a change in the configuration of the reflecting surface (9a) (page 17, paragraph 413-page 18, paragraph 418); and a control section for effecting control so as to conduct electricity (via electrode 70) to said variable configuration mirror (93) when an operation mode of the imaging apparatus (digital camera) is set to a specific mode (page 17, paragraph 413-page 18, paragraph 418; figures 1 and 26). Nishioka states that the variable mirrors (93,94) are used to perform zooming and auto-focusing in order to form an image on a solid-state image pickup device (8) (page 17, paragraph 413). Therefore, it can be seen that electricity is conducted to the variable configuration mirrors (93,94) when an operation mode of the imaging apparatus (digital camera) is set to a specific mode (image-capturing/taking mode). However, although the embodiment of figure 26 discloses all of the above limitations it fails to go into detail regarding the conduction of electricity to the variable configuration mirrors. Specifically, it fails to state that the control section controls the conduction of electricity so as to avoid an overlap in time of the periods during which electricity is conducted respectively to the variable configuration mirror to

be used for said image taking section and to the variable configuration mirror to be used for said optical finder.

Nishioka further discloses in a separate embodiment a zoom type Galilean finder using electrostatically driven variable mirrors (9J, 9K) (figure 28). Nishioka states that when the action of the variable mirror (9J) as a concave reflecting surface is weak and the action of the variable mirror (9K) as a concave reflecting surface is strong, the finder works as a wide-angle Galilean finder, and when the action of the variable mirror (9J) as a concave reflecting surface is strong and the action of the variable mirror (9K) as a concave reflecting surface is weak, the finder works as a telephoto Galilean finder (page 18, paragraph 421). Thus, since when the action of one variable mirror as a concave reflecting surface is strong the action of the other variable mirror as a concave reflecting surface is weak it can be seen that control of the variable mirrors (9J, 9K) is affected so as to avoid an overlap of the strength of the conduction of electricity. Therefore, it would have been obvious for one skilled in the art to have been motivated to include a variable configuration mirror control logic for avoiding an overlap of the conduction of electricity of two variable configuration mirrors as disclosed by the embodiment of figure 28 of Nishioka in the single-lens reflex optical system for a digital camera disclosed by the embodiment of figure 26 of Nishioka and use the variable configuration mirror control logic to control variable configuration mirrors of the image taking section and of the optical finder. Doing so would provide a means for effectively performing zooming and diopter adjustment of a finder optical path between a wide-angle view and a telephoto view. However, although the Nishioka reference discloses all of the above

limitations including that it is desirable for an action of one variable mirror as a concave reflecting surface to be weak and the action of another variable mirror as a concave reflecting surface to be strong it fails to specifically state that when electricity is conducted to one variable configuration mirror in order to make it a concave reflecting surface electricity is not conducted to the other variable configuration mirror.

Sekiyama discloses an optical system for a camera including variable configuration mirrors that are adjusted in order perform focusing and zooming operations. Sekiyama states that diopter control of the finder section of the optical system may be performed by transforming one variable mirror at a time or transforming both variable mirrors at the same time (page 22, paragraph 347). Thus, it can be seen that it is well known to adjust variable configuration mirrors independently of one another so that that there is not an overlap in the time that the mirrors are conducting electricity or to adjust variable configuration mirrors simultaneously. Therefore, it would have been obvious for one skilled in the art to have been motivated to adjust variable configuration mirrors disclosed by Nishioka independently of one another so that that there is not an overlap in the time that the mirrors are conducting electricity as disclosed by Sekiyama. Doing so would provide a means for performing an adjustment of an optical system of a camera in a fast and efficient manner.

Re claim 15, Nishioka discloses an optical finder (Keplerian finder) for visually confirming an image to be taken (page 13, paragraphs 352-354) comprising: a plurality of variable configuration mirrors (93,94,95) having a reflecting surface (9a) variable in

configuration upon a conduction of electricity for performing an optical adjustment of said optical finder (Keplerian finder) based on a change in the configuration of the reflecting surface (9a) (page 17, paragraph 413-page 18, paragraph 418); and a control section for effecting control so as to conduct electricity (via electrode 70) to said variable configuration mirror (93) when an operation mode of the imaging apparatus (digital camera) is set to a specific mode (page 17, paragraph 413-page 18, paragraph 418; figures 1 and 26). Nishioka states that the variable mirrors (93,94) are used to perform zooming and auto-focusing in order to form an image on a solid-state image pickup device (8) (page 17, paragraph 413). Therefore, it can be seen that electricity is conducted to the variable configuration mirrors (93,94) when an operation mode of the imaging apparatus (digital camera) is set to a specific mode (image-capturing/taking mode). However, although the embodiment of figure 26 discloses all of the above limitations it fails to go into detail regarding the conduction of electricity to the variable configuration mirrors. Specifically, it fails to state that the control section effects control so as to avoid an overlap of the conduction of electricity for at least one variable configuration mirror of said variable conduction mirrors with the conduction of electricity for the other variable configuration mirror.

Nishioka further discloses in a separate embodiment a zoom type Galilean finder using electrostatically driven variable mirrors (9J, 9K) (figure 28). Nishioka states that when the action of the variable mirror (9J) as a concave reflecting surface is weak and the action of the variable mirror (9K) as a concave reflecting surface is strong, the finder works as a wide-angle Galilean finder, and when the action of the variable mirror (9J) as

a concave reflecting surface is strong and the action of the variable mirror (9K) as a concave reflecting surface is weak, the finder works as a telephoto Galilean finder (page 18, paragraph 421). Thus, since when the action of one variable mirror as a concave reflecting surface is strong the action of the other variable mirror as a concave reflecting surface is weak it can be seen that control of the variable mirrors (9J, 9K) is affected so as to avoid an overlap of the conduction of electricity. Therefore, it would have been obvious for one skilled in the art to have been motivated to include a variable configuration mirror control logic for avoiding an overlap of the conduction of electricity of two variable configuration mirrors as disclosed by the embodiment of figure 28 of Nishioka in the single-lens reflex optical system for a digital camera disclosed by the embodiment of figure 26 of Nishioka. Doing so would provide a means for effectively performing zooming and diopter adjustment of a finder optical path between a wide-angle view and a telephoto view. However, although the Nishioka reference discloses all of the above limitations including that it is desirable for an action of one variable mirror as a concave reflecting surface to be weak and the action of another variable mirror as a concave reflecting surface to be strong it fails to specifically state that when electricity is conducted to one variable configuration mirror in order to make it a concave reflecting surface electricity is not conducted to the other variable configuration mirror.

Sekiyama discloses an optical system for a camera including variable configuration mirrors that are adjusted in order perform focusing and zooming operations. Sekiyama states that diopter control of the finder section of the optical system may be performed by transforming one variable mirror at a time or transforming

both variable mirrors at the same time (page 22, paragraph 347). Thus, it can be seen that it is well known to adjust variable configuration mirrors independently of one another so that there is not an overlap in the time that the mirrors are conducting electricity or to adjust variable configuration mirrors simultaneously. Therefore, it would have been obvious for one skilled in the art to have been motivated to adjust variable configuration mirrors disclosed by Nishioka independently of one another so that there is not an overlap in the time that the mirrors are conducting electricity as disclosed by Sekiyama. Doing so would provide a means for performing an adjustment of an optical system of a camera in a fast and efficient manner.

Allowable Subject Matter

Claims 19 and 20 are allowed.

Re claim 19, the prior art fails to teach or suggest, "An imaging apparatus comprising: an image taking section for taking an image; a variable configuration mirror to be used for the image taking section having a reflecting surface variable in configuration upon a conduction of electricity for performing an optical adjustment of said image taking section by change in the configuration of the reflecting surface; an optical finder for visually confirming the image to be taken; a variable configuration mirror to be used for the optical finder having a reflecting surface variable in configuration upon a conduction of electricity for performing an optical adjustment of

said optical finder by change in the configuration of the reflecting surface; and a control section for controlling the conduction of electricity to the variable configuration mirror to be used for said image taking section and to the variable configuration mirror to be used for the optical finder; wherein the control section controls the conduction of electricity so as to avoid an overlap in time of the periods during which electricity is conducted respectively to the variable configuration mirror to be used for said image taking section and to the variable configuration mirror to be used for said optical finder, **and effects control so that an intermittent conduction of electricity for retaining the configuration of the reflecting surface of said variable configuration mirrors to a predetermined configuration within a permissible range is repeated in such a manner that an intermittent cycle for the variable configuration mirror to be used for said image taking section is shorter as compared to that for the variable configuration mirror to be used for said optical finder".**

Re claim 20, the prior art fails to teach or suggest, "An imaging apparatus comprising: image taking means for taking an image; a variable configuration mirror to be used for the image taking means having a reflecting surface variable in configuration upon a conduction of electricity for performing an optical adjustment of said image taking means by change in the configuration of the reflecting surface; an optical finder for visually confirming the image to be taken; a variable configuration mirror to be used for the optical finder having a reflecting surface variable in configuration upon a conduction of electricity for performing an optical adjustment of said optical finder by

change in the configuration of the reflecting surface; and control means for controlling the conduction of electricity to the variable configuration mirror to be used for said image taking means and to the variable configuration mirror to be used for the optical finder; wherein the control means **effects control so that an intermittent conduction of electricity for retaining the configuration of the reflecting surface of said variable configuration mirrors to a predetermined configuration within a permissible range is repeated in such a manner that an intermittent cycle for the variable configuration mirror to be used for said image taking means is shorter as compared to that for the variable configuration mirror to be used for said optical finder**".

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Contacts

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kelly L. Jerabek whose telephone number is **(571) 272-7312**. The examiner can normally be reached on Monday - Friday (8:00 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on **(571) 272-7372**. The fax phone number for submitting all Official communications is **(571) 273-7300**. The fax phone number for submitting informal communications such as drafts, proposed amendments, etc., may be faxed directly to the Examiner at **(571) 273-7312**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KLJ



LIN YE
SUPERVISORY PATENT EXAMINER